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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/764,913	01/17/2001	Patrick Edward Feierabend		8186

7590 06/26/2003  
JOHN S. FOSTER  
4678 VIA HUERTO  
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EXAMINER

COLEMAN, WILLIAM D

ART UNIT PAPER NUMBER

2823

DATE MAILED: 06/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/764,913

Applicant(s)

FEIERABEND ET AL.

Examiner

W. David Coleman

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2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 30 and 144 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5 and 7 is/are rejected.
- 7) ☒ Claim(s) 3,6 and 8-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I invention, claims 1-13 in Paper No. 5 is acknowledged. The traversal is on the ground(s) that the subject matter of any one group encompass a search for the subject matter of the remaining claims. This is not found persuasive because the subject matter has acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper..
2. The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 4, 5 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Gooch et al., U.S. Patent 6,521,477 B1.

Gooch discloses a semiconductor process as claimed. See FIGS. 1-14 where Gooch teaches a method for constructing an array of MEMS devices, comprising the steps of:  
dicing the MEMS wafer to separate individual dies from an original fabrication wafer (column 1, lines 28-30);  
placing the die in a holder (column 7, lines 5-10);

bringing the die in said holder into proximity to a second wafer;  
adjusting the orientation of the die relative to the second wafer; and  
connecting said die onto said second wafer (column 7, line 8).

5. Pertaining to claim 2, Gooch teaches the method of claim 1, further comprising the step of:  
rotating said die out of the original plane of fabrication, and connecting to said second wafer (since MEMS are fabricated on a major surface of a wafer, aligning is equivalent to rotating).

6. Pertaining to claim 4, Gooch teaches the method of claim 1, further comprising the step of: connecting said die electrically to said second wafer.

7. Pertaining to claim 5, Gooch teaches the method of claim 1, further comprising the step of applying heat to a contact area between said die and said wafer, in order to cure a bonding adhesive (hence, solder is the bonding adhesive in this case, column 6, lines 15-63).

8. Pertaining to claim 7, Gooch teaches the method of claim 5, further comprising the step of:  
packaging the array in a eutectic seal.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gooch et al., U.S. Patent 6,521,477 B1.

11. Gooch discloses a semiconductor process substantially as claimed. Gooch teaches a method for constructing an array of MEMS devices, comprising the steps of:  
dicing the MEMS wafer to separate individual rows from an original fabrication wafer;  
placing the row in a holder;  
bringing the row in said holder into proximity to a second wafer;  
adjusting the orientation of the row relative to the second wafer; and  
connecting said die onto said second wafer. However, Gooch fails to teach the step of selecting from the row, a set of contiguous devices within the row;  
discarding from the row the devices not selected. These steps appear to mental steps as far as a selecting and discarding because Applicant's claim provides no logical reasoning to select and discard and is therefore a random process. In view of Gooch, it would have been obvious to one of ordinary skill in the art to randomly select and discard a MEMS die because MEMS devices are fragile especially after dicing (column 1, lines36).

### ***Objections***

12. Claims 3, 6 and 8-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

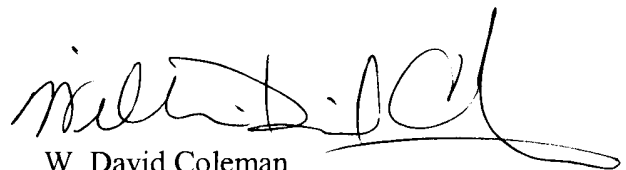
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***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. David Coleman whose telephone number is 703-305-0004. The examiner can normally be reached on 9:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



W. David Coleman  
Primary Examiner  
Art Unit 2823

WDC  
June 23, 2003